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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/792,231	03/03/2004	Yu-Kai Lin	250122-1300	4781
24504	7590	10/19/2005	EXAMINER	
THOMAS, KAYDEN, HORSTEMEYER & RISLEY, LLP 100 GALLERIA PARKWAY, NW STE 1750 ATLANTA, GA 30339-5948			CHANDRAN, BIJU INDIRA	
			ART UNIT	PAPER NUMBER
			2835	

DATE MAILED: 10/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. <input checked="" type="checkbox"/>	Applicant(s)	
	10/792,231	LIN, YU-KAI	
	Examiner	Art Unit	
	Biju Chandran	2835	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>03/03/2004</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

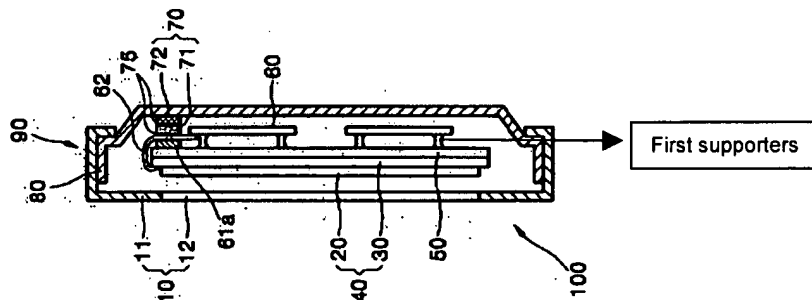
A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

1. Claims 1-9 are rejected under 35 U.S.C. 102(a) as being anticipated by Bae (PGPub US 2005/0078446 A1).

- Regarding claim 1, Bae discloses a plasma display, comprising: a base plate (50); a back cover engaged with the base plate (80) to form a space; a first circuit board (60) mounted on the base plate (50); a first electronic element (61a) disposed on the first circuit board; a first thermal conductive device (70) disposed between the first electronic element and the back cover and mounted on the first electronic element (paragraph 0057, 0058).
- Regarding claim 2, Bae further discloses that the base plate is metal (paragraph 0053).
- Regarding claim 3, Bae further discloses that the metal plate is made of at least one of aluminum, copper or other compound metal (paragraph 0053).

- Regarding claim 4, Bae further discloses that the first thermal conductive device comprises a thermal conductive spring (71) element (paragraph 0059).
- Regarding claim 5, Bae further discloses that the thermal conductive spring element has a spring portion (71) secured on the first electronic element and a contact portion (72) abutting the back cover (paragraph 0057).
- Regarding claim 6, Bae further discloses that the spring portion (71) is integrally formed (70) with the contact portion (72) (paragraph 0058).
- Regarding claim 7, Bae further discloses that the thermal conductive spring element (71) comprises copper (paragraph 0059).



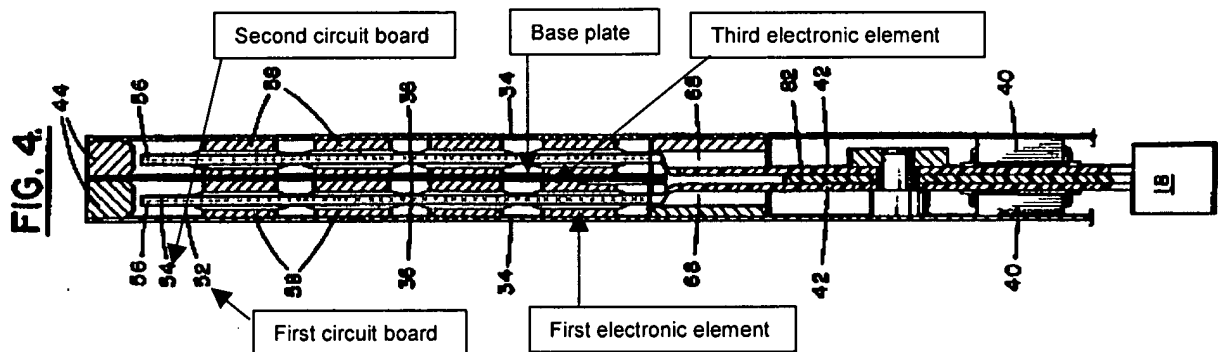
- Regarding claim 8, Bae further discloses a plurality of first supporters disposed between and separating the first circuit board and the base plate by an appropriate distance.
- Regarding claim 9, Bae further discloses a second electronic element (20) disposed on the first circuit board opposite to the first electronic element.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 10-20 rejected under 35 U.S.C. 103(a) as being unpatentable over Bae in view of Cipolla et al. (US Patent 5,268,815).

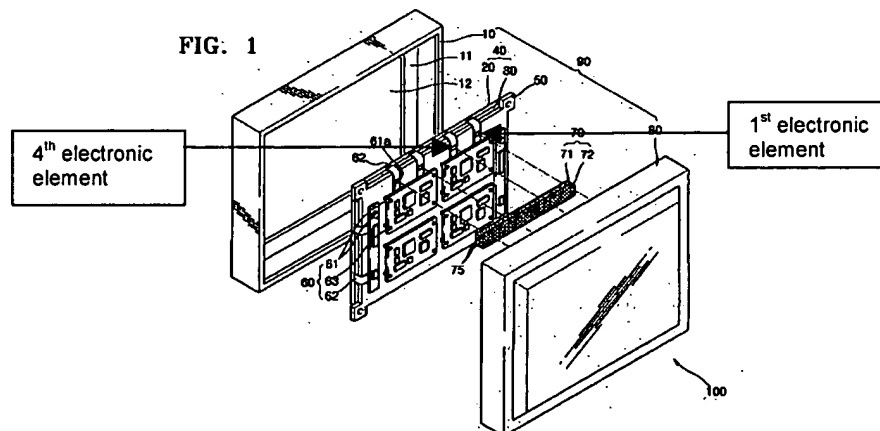


- Regarding claim 10, Bae discloses all the limitations of claim 3. Bae does not disclose a second circuit board mounted between the first circuit board and the base plate with a third electronic element disposed on it. Cipolla et al. discloses a cooling mechanism for circuit board components comprising a second circuit board (54) mounted between the first circuit board (52) and the base plate (36); a third electronic element (marked in the attached figure) disposed on the second circuit board. At the time the invention was made, it would have been obvious for one of ordinary skill in the art to incorporate the

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2nd circuit board with the 3rd electronic element as taught by Cippola et al. in the plasma display as disclosed by Bae, to increase the number of electronic elements that can be enclosed within the plasma display.

- Regarding claim 11, Bae further discloses that the first thermal conductive device comprises a thermal pad (75).
- Regarding claim 12, Bae as modified by Cipolla et al. discloses all the limitations of claim 11. Bae does not expressly disclose a fastener to fix the back cover to the first circuit board. Cipolla et al. disclose a fastener (figures 1 & 2) to fix the back cover (34) to the first circuit board (52). At the time the invention was made, it would have been obvious to us the fastener of Cipolla et al. in the device of Bae to more securely constrain the circuit board to the back cover.
- Regarding claim 13, Cipolla et al. further disclose the fastener to be a bolt (figures 1 & 2).



- Regarding claim 14, Bae further disclose a fourth electronic element disposed on the first circuit board (60); and a second thermal conductive device (marked in attached figure) disposed between the fourth electronic element and the back cover and mounted on the fourth electronic element (figure 4c, paragraph 0066).
- Regarding claim 15, Bae further discloses that the second thermal device comprises a thermal conductive spring element (71, paragraph 0059).
- Regarding claim 16, Bae further discloses that the thermal conductive spring element has a spring portion secured on the first electronic element and a contact portion abutting the back cover (paragraph 0058).
- Regarding claim 17, Bae further discloses that the spring portion (71) is integrally formed (70) with the contact portion (72) (paragraph 0058).
- Regarding claim 18, Bae further discloses that the thermal conductive spring element (71) comprises copper (paragraph 0059).
- Regarding claim 19, Bae as modified by Cipolla et al. discloses all the limitations of claim 10. Cipolla et al. further disclose that the second circuit board is mounted on the base plate (see attached figure, and figure 2, Cipolla et al.). At the time the invention was made, it would have been obvious to one of ordinary skill in the art to incorporate the second circuit board mounted on the base plate as taught by Cipolla et

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al. in the device taught by Bae to enable packaging of more electronic components within the device.

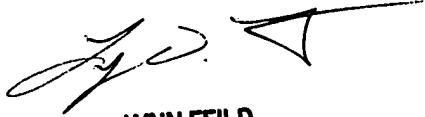
- Regarding claim 20, Bae further discloses a fifth electronic element (30) disposed on the first circuit board opposite to the first electronic element.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Biju Chandran whose telephone number is (571) 272-5953. The examiner can normally be reached on 8AM - 5PM. Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynn Feild can be reached on (571) 272-2092. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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